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ABSTRACT

This research brief reviews recent and projected trends in the economy and the implications of those trends for the college-educated population in the labor market. Tables provide data on: (1) labor force participation rate by educational attainment and race, for 1978 and 1988; (2) unemployment rate by educational attainment and race, for 1978 and 1988; (3) median income for men and women by age and educational attainment; (4) projected percent change in employment by occupational categories; and (5) percent distribution of the civilian labor force by sex and race for 1976, 1988, and 2000 (projected). Data indicate that the percentage of college graduates in the labor force increased from 1978 to 1988; that college graduates have higher labor force participation rates, have lower unemployment rates, and earn more; and that the hiring of college graduates is expected to increase as an increased percentage of the jobs of the future require a postsecondary education. Policy implications are considered, such as increased demand for postsecondary education as the labor market requires higher levels of education and skills, colleges' need to address higher cognitive learning skills, and the role of higher education in increasing minority access to college. The research brief concludes with 3 data resources, a bibliography of 11 items, and 3 end notes. (JDD)

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College Graduates in the Labor Market: Today and the Future

Cecilia Ottinger

A college education is a major investment for students and their parents. With rising college costs, students are asking more questions than ever before about the practical return on their investment: What are the advantages of being a college graduate in America today? What is the job outlook for college graduates? Will my investment of time, energy, and money in a degree reward me financially? Which professional fields are projected to have the most growth? What level of education is required for certain professions?

In this research brief we review recent and projected trends in the economy and the implications of those trends for the college educated population in the labor market.

HIGHLIGHTS

- A college degree remains a good investment. College graduates not only have lower unemployment rates and higher labor force participation rates; they also enjoy a competitive advantage in the labor market in terms of better jobs, and receive relatively higher incomes than high school graduates.
- Jobs projected for the most growth from now to the year 2000 will demand higher skill levels and more education than present jobs require. More than half of the occupations that will be in most demand in the future will require at least some postsecondary education.
- Business demand for individuals with postsecondary education is expected to increase. During 1989 the hiring of recent college graduates was expected to increase by 8 percent over 1988. The most dramatic increase was expected in engineering: the hiring of individuals with bachelor's degrees in the field of engineering was predicted to increase 12 percent over 1988, while the hiring for those with nonengineering degrees was expected to increase 7 percent.
- The supply of college graduates in the labor market is expected to almost equal the demand. Between 1986 and 2000, about 19 out of 20 college graduates are expected to find jobs comparable to their educational level.
- The income advantage for college graduates steadily increases with the employee's age, while for high school graduates increases in income are slower.

IMPLICATIONS

These highlighted data give rise to certain key questions regarding the interrelationship between the labor market of the future and the role of higher education:

- If the labor market will require higher levels of education and skills for the future, will this increase the demand for postsecondary education?
- Minorities will not be able to take advantage of the job opportunities of the future if they are not college-educated today: What role can higher education play in increasing minority access to college?
- With more emphasis on higher cognitive learning skills for the future, will colleges address the need for a broader knowledge of their students?

Table 1
Labor Force Participation Rate by Educational Attainment and Race, March 1978 and March 1988

	Total		White		Black		Hispanic[1] Origin	
	1978	1988	1978	1988	1978	1988	1978	1988
Total	72.5	77.5	72.5	78.1	72.6	74.3	69.0	72.7
4 years of high school	72.5	76.9	71.9	76.9	79.1	77.9	74.4	77.0
1 to 3 years of college	77.8	82.5	77.2	82.2	83.0	85.8	81.6	83.0
4 years or more of college	85.6	88.4	85.4	88.6	93.1	90.6	81.9	90.6

Note: Data is for persons 25 to 64 years old.
[1]Hispanics may be of any race.

Source: U.S. Bureau of Labor Statistics, unpublished data, 1989.

More of the U.S. Labor Force are College Educated

- In the last decade, the percentage of college graduates in the labor force increased significantly. In 1988, 26 percent of adult workers (25 to 64 years old) were college graduates, compared to just 21 percent ten years earlier.[1]

- In 1988, another 20 percent had completed 1 to 3 years of postsecondary education; this is up from 16 percent in 1978.

- In 1978, only 10 percent of Blacks had attended college for four or more years. Ten years later that figure had risen to 15 percent. Comparable increases for Hispanics were also observed; between 1978 and 1988 the figure rose from 9 to 13 percent.

- Twenty-six percent of whites in the labor force had attended four or more years of college in 1988, compared to the 1978 figure of 21 percent.

College Graduates Fare Better in the Job Market

Overall, college graduates appear to have a competitive advantage in the labor market.

- College graduates have the highest labor force participation rates. In 1988, 88 percent of college graduates were in the labor market, compared to 83 percent for persons with 1 to 3 years of college and 77 percent of high school graduates (Table 1).

- There are more college educated women in the labor market. During the decade 1978 to 1988, an increasing percentage of college educated women were in the labor force. In 1988, 81 percent of women college graduates participated in the labor force, compared to 71 percent in 1978.

- In 1988, women with four or more years of college were more likely to be in the labor force than those with only some college (81 percent vs. 75 percent).

- In 1988, a larger percentage of college educated men were in the labor force than women (94 percent vs. 81 percent).

- Today a slightly larger proportion of college educated minorities are in the labor market than are comparable whites. In 1988, 91 percent of both Black and Hispanic college graduates were in the labor market compared to 89 percent of white college graduates.

Unemployment

- From the above data one can clearly see that postsecondary education pays off in terms of employment. High school graduates are more likely to be unemployed than college graduates or those with even one to three years of college. In 1988, the unemployment rate stood at 5.4 percent for high school graduates, and 1.7 percent for college graduates, individuals with 1 to 3 years of college had an unemployment rate of 3.7 percent in 1988 (Table 2).

- During the last five years, the unemployment rate for college educated blacks declined considerably from 8.1 percent in 1983 to 3.3. percent in 1988. Still, this unemployment rate is twice that of whites (1.5 percent). The unemployment rate for college educated Hispanics was 2.2 percent in 1988.

Table 2
Unemployment Rate by
Educational Attainment and Race, Selected Years

	Total		White		Black		Hispanic[1]	
	1978	1988	1978	1988	1978	1988	1978	1988
Total	4.4	4.7	3.9	4.0	8.4	10.0	7.2	6.9
4 years of high school	4.4	5.4	3.9	4.6	8.7	13.5	5.7	6.0
1 to 3 years of college	3.2	3.7	2.8	3.4	6.1	7.4	4.9	3.5
4 years or more of college	2.1	1.7	1.9	1.5	4.0	3.3	7.3	2.2

Note: Data is for the civilian population 25 to 64 years of age.
[1] Hispanics may be of any race.

Source: U.S. Bureau of Labor Statistics, unpublished data, 1989.

College Graduates Earn More

The higher the level of education the better the pay. Adults (25 years and older) with postsecondary education fare better in terms of income than those with only a high school education.

- In 1987, male college graduates (with four years of college or more) had a median income of $37,854, compared to $25,394 for males with only a high school education (Figure 1).

- Women college graduates also fared better. The 1987 median income for women with four years or more of college stood at $25,645 while those whose last degree was a high school diploma had a median income of $16,461.

- This relationship held true for blacks as well. In 1987, black males with four or more years of college had median incomes which were more than 60 percent higher than those with a high school diploma ($30,541 vs $18,920).

- In 1987, black females with four or more years of college earned a median income of $22,712 compared to $15,582 for their female counterparts with only a high school diploma.

- Individuals without a college degree but with at least some postsecondary education still fare better than those without it. In 1987, males with 1 to 3 years of college earned a median income 39 percent greater than high school graduates ($29,535 vs. $21,269).

- Although women who are college-educated have higher incomes than those with only a high school education, there are still disparities between the salaries of women and men. In 1987, college educated women's income was 32 percent less than men with comparable education.

The income advantage for college graduates increases with age while for high school graduates increases in median income are slower. In every comparison by age and years of education, the earning power of college graduates was higher than for those who were high school graduates. The median income by age and education level for women and men in 1987 are as follows:

- Twenty-five to 34-year-old women with four years or more of college enjoyed higher average incomes ($23,293) than high school graduates in the same age and gender group $15,326 (Table 3).

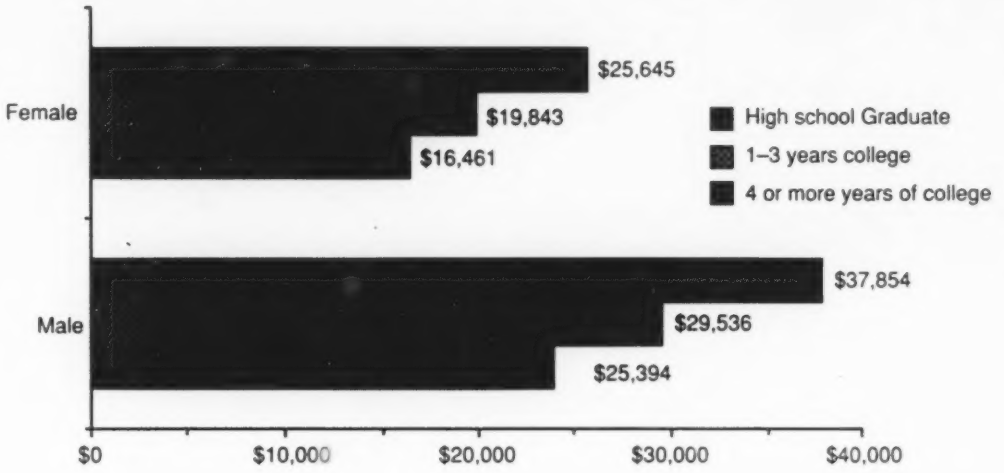
Table 3
Median Income by Sex and Age: 1987

	A G E		
Men	25 to 34	35 to 44	45 to 54
High School	$21,459	$26,501	$29,323
1 - 3 years of college	24,064	30,977	36,035
4 or more years of college	31,195	39,199	45,494
Women	25 to 34	35 to 44	45 to 54
High school	$15,326	$16,612	$17,358
1 - 3 years of college	17,871	21,572	20,751
4 or more years of college	23,293	26,879	28,720

Note: Data is for year-round full-time workers.

Source: U.S. Bureau of the Census, Series P-60 No. 162, "Money Income of Households, Families, and Persons in the United States: 1987".

Figure 1
Education and Median Income of Adults, 1987



Note: Data is for year-round full-time workers, 25 years and older

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 162. "Money Income of Households, Families and Persons in the U.S. 1987."

- While the gap is not as dramatic, the same was true of men of that age group: college graduates earned $31,195 while high school graduates earned $21,459.

- Thirty-five to 44-year old women with four years or more of college typically had incomes of $26,879 vs. high school graduates whose average income was only $16,612. For males the comparable figures were $39,199 for college graduates and $26,501 for high school graduates.

Outlook for Recent College Graduates

The hiring of recent college graduates is expected to increase. Overall, employers expected to hire 3.4 percent more bachelor's degree recipients in 1988-89 than they did in 1987-88[2]. The greatest demand in 1988-89 was for students who majored in hotel, restaurant, and institutional management. Employers expected to increase hiring of students with these majors by 6.2 percent. The other fields in which employers anticipated increased hiring, were: electrical engineering (4.8 percent), marketing/sales (4.6 percent); financial administration (3.9 percent) and computer science (3.4 percent). An even brighter outlook is forecast for college graduates by the 1989 Northwestern Lindquist - Endicott report, that projects the demand for bachelor's recipients to increase by 8 percent over 1988.

- The hiring of individuals with bachelor's degrees in the field of engineering was predicted to increase 12 percent over 1988, while the hiring for those with nonengineering degrees was expected to increase 7 percent.

Starting Salaries

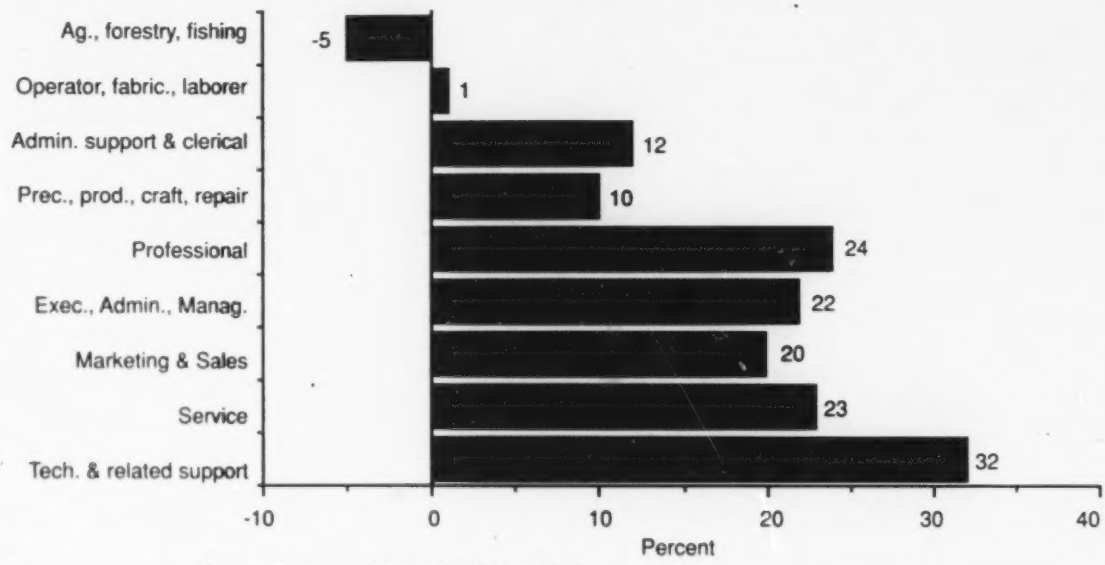
- The average annual starting salary for bachelor's degrees graduates was expected to be $23,810 in 1988-89. This is 3.5 percent higher than the previous academic year.

- New graduates with degrees in engineering and computer science could expect the highest average salaries. For example, mechanical engineering graduates could expect an average starting salary of $30,848 in 1989.

Labor Force Participation

- Data from the Recent College Graduate survey conducted by the Department of Education indicated that 91 percent of 1985-86 college graduates (B.A. degrees) were in the labor force in 1987, as illustrated below:
  - — 75 percent employed full-time
  - — 11 percent working part-time
  - — 14 percent unemployed[3].

Figure 2
Projected Percent Change in Employment, 1988–2000



Source: Bureau of Labor Statistics, 1989.

- More than three-quarters of 1985-86 college graduates said they were employed in positions related to their major (78 percent).

- College graduates with degrees in the professional fields (e.g. business and management, education and engineering) were more likely after graduation, to hold positions in their field of study than those with degrees in the arts and sciences (e.g. biology, social science and humanities) (85 percent versus 65 percent).

Jobs of the Future Require Postsecondary Education

- According to the Bureau of Labor Statistics, 18.1 million jobs are projected to be added to the labor market between 1988 and the year 2000. Overall, the number of jobs in the labor market will grow by 15 percent. Over the 1988-2000 period the major occupations expected to show faster than average growth are: professional and specialty occupations; technical and related support; and executive administrative and managerial positions.

- Jobs in the professional occupations that require a college education are projected to increase 24 percent between 1988 and 2000 (Figure 2). The greatest growth will be in the fields of engineering, computer systems analysis, and health. For example, from 1988 - 2000, jobs for electrical and electronic engineering are expected to grow by 48 percent and positions for computer systems analysts are projected to increase by 76 percent.

- Generally, about 19 out of 20 college graduates who enter the labor market during 1986 - 2000 are expected to find jobs comparable to their educational level.

- In contrast, occupations with a large proportion of workers who are high school graduates are expected to enjoy the least growth or even experience a decline. Currently, half of the workers who are operators, fabricators, and laborers have a high school diploma. However, these occupations are projected to grow by only 1 percent between 1988 and 2000.

- Individuals with some postsecondary education can expect to do well in the future. Between 1988 and 2000, jobs in technical and related support are projected to grow by 32 percent, more rapidly than any other occupational group. Most of these workers are trained at community/technical colleges and usually require at least one year of training beyond high school.

Policy Implications

Projections indicate that the labor market will require higher levels of education and skills for the future. According to the Hudson Institute, the fastest-growing jobs will require much higher math, language, and reasoning capabilities than current jobs, while the slow growing jobs will require less education. These factors may increase the demand for postsecondary education not only among traditional-age students, but also among those reentering the workforce and workers upgrading their skills.

The increased demand for higher skills further indicates that those with the most education will experience less unemployment and higher labor force participation rates; while those with less education will be faced with a dire situation. The least-educated and the economically disadvantaged are more likely to be left behind. This seems ironic considering that minorities are predicted to constitute a much larger share of the labor force. For example, in 1988, Blacks and Hispanics comprised 18 percent of the labor force. They are projected to represent 22 percent of the labor force in the year 2000 (table 4). Yet as of 1987, Hispanics and Blacks continued to be underrepresented among bachelor's degree recipients compared to their enrollment levels in higher education. In 1986, 9 percent of all undergraduates were Black, but they received only 6 percent of all bachelor's degrees.

More importantly, from 1986 to 1988 higher percentages of white high school graduates enrolled in college, while the college participation rates of Blacks and Hispanics remained disproportionately low.

These data indicate that there will be very few blacks and Hispanics who will be able to enter many of the occupations predicted to have the most growth. Will they be able to take advantage of the opportunities of the future if they are not educated today? What role can higher education play in preparing these young people? What role can our financial aid policies play?

With much more emphasis on higher order learning skills, college graduates will be expected to have a broader knowledge base than simply their field of expertise. Colleges and universities have begun to stress an array of fundamental skills for postsecondary students. The 1989 Campus Trends survey found that: "Among institutions with general education requirements, fully 9 out of 10 have course requirements in the humanities, the social sciences, the natural sciences, and mathematics."

Although the prospects for those with a college education have improved since the 1970s and are expected to continue to improve from now to the year 2000, there still may be some surplus of college graduates competing in the labor market. This is due to the fact that former college graduates who are not now in the labor force could enter or re-enter the college graduate labor market and be competing for college - level positions with new entrants. This group is mainly comprised of college graduates who re-enter after dropping out of the labor market to concentrate on childrearing and other family responsibilites, or to pursue an advanced degree.

This implies that students currently in college and those planning to enter college must carefully identify their career objectives, prepare themselves academically, and develop strategies that will allow a smooth transition from college to work. An excess of college graduates in the labor market increases the probability that those who fail to enter or complete their education at the high school level may experience even more difficulty in achieving their career goals.

Table 4
Percent Distribution of the Civilian Labor Force by Sex and Race, Selected Years

Category	1976	1988	2000 [a]
Men	59.5%	55.0%	52.7%
Women	40.5	45.0	47.3
White	68.2	86.1	84.3
Black	9.9	10.9	11.7
Asian and other [1]	1.9	3.0	4.0
Hispanic[2]	4.4	7.4	10.1

Notes: [a]Moderate growth Projection.
[1]The Asian and other group includes American Indians, Alaskan Natives, Asians and Pacific Islanders.
[2]Hispanics may be of any race.
Data is for ages 16 and over

Source: U.S. Department of Labor, Bureau of Labor Statistics, November, 1989.

Resources

1. Detailed data on the labor force status of adults arranged by the level of education attainment can be obtained from the Current Population survey, conducted each March by the U.S. Census Bureau for the Bureau of Labor Statistics. Contact Wayne Howe, Division of Labor Force Statistics, Bureau of Labor Statistics, 200 Constitution Avenue, Washington, D.C. 20212 (202) 523-1371.

2. The U.S. Census Bureau provides data on the median income of year-round, full-time workers categorized by sex, race, and level of education via the March Current Population Reports. The data are reported annually in the "Money Income of Households, Families and Persons in the United States," Series P-60. For further information, contact Robert Cleveland, Income Branch, U.S. Census Bureau, Washington, D.C. 20033 (301) 763-8576.

3. The Recent College Graduates Survey (RCG) is conducted by the Department of Education's National Center for Education Statistics (NCES). The 1985-86 survey was of graduates who received a bachelor's or master's degree between July 1, 1985 and June 30, 1986. This survey collects data on a number of variables including: labor force status, occupation, average starting salaries, sex, level of degree, and newly qualified teacher certification. For further information, contact Peter Stowe, National Center for Education Statistics, 555 New Jersey Avenue, N.W., Washington, D.C., 20208-1404 (202) 357-6363.

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End Notes

1. Civilian labor force distribution by educational attainment, unpublished data from the Bureau of Labor Statistics.

2. Career Development and Placement Services Michigan State University, Recruiting Trends, 1988-89: A Study of Businesses, Industries, Governmental Agencies and Educational Institutions Employing New Graduates p. iv.

3. Five percent of this group was looking for work and 9 percent were unemployed by choice.

The Division of Policy Analysis and Research publishes the ACE Research Brief Series, a collection of short papers exploring timely and pertinent issues in higher education. Current topics include trends in minority student participation, student employment, community college students, and the labor market for college graduates. The series is published eight times a year and is available for $50 for one year, $95 for two years, or $135 for three years. ACE members receive a 10 percent discount. To order, contact the Division of Policy Analysis and Research, American Council on Education, One Dupont Circle NW, Washington, D.C. 20036, (202) 939-9450.

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